

### Abstract

Methods are discussed that enhance program analysis. One aspect of the invention includes a method for checking a model of a program. The method includes a control-flow graph having vertices from the model, applying a transfer function to each vertex to form a set of path edges, and analyzing the set of path edges of a vertex. The set of path edges includes valuations that are implicitly represented so as to inhibit an undesired explosion in the valuations that would hinder the act of analyzing.

